



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,791	03/10/2004	Thomas Duerbaum	DE 010138A	4510
24737	7590	03/14/2006	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			PATEL, RAJNICKANT B	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/797,791	DUERBAUM ET AL.	
Examiner	Art Unit		
Rajnikant B. Patel	2838		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 02 February 2006.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 5,8,9,11-13,15-18 and 21-33 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 5,8,9,15-18,21-26 and 27-33 is/are rejected.

7) Claim(s) 11-13,28 and 31 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ .
4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____ .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2 February 2006 have been fully considered but they are not persuasive. Because applicant admits "the cited text merely discloses that different output voltage value can be provided in Balaban's circuit by providing different numbers of turns on the windings. However, it does not disclose that different ratios of output voltage to number of turns are provided in respect of associated secondary windings having different winding directions." Applicant apparently does not see the portion at the column 4, clearly disclose that "the present invention envisions providing any number of DC output voltages of virtually any desire value and of either polarity by merely incorporating the required number of turns and winding sense in a particular winding of the converter transformer" this indicate exactly what applicant claims, even cited figure 1, clearly disclose different direction of the secondary winding as well as different turn ratio. In regards to claim 5, applicant argue that Balaban does not discloses a capacitor and inductive element in series with primary winding examiner agree with applicant but those element represents resonant topology but cited teaching reference clearly discloses same principle of resonant converter as claimed by applicant.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 8-9,15-16 and 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Balaban (U.S. Patent # 4,481,564).

Balaban discloses claimed subject matters a resonant converter (figure 1, and column 4, line 1-2), a multiple outputs (figure 1, item V1 and V2), a transformer (figure 1, item 16), a primary winding (figure 1, item 18), at least two secondary windings different winding direction (figure 1, item 20 and 22 plus see dot representation), one diode (figure 1, item 66 and 76), one output filter (figure 1, item 68,72,78 and 82), and a different ratio of output (column 4, line 65-70 and column 5, line 1-10). In regards to claims 15-16 and 21-24, Balaban also disclose the subject matters "one more secondary windings (figure 1, item 20,22 and 24), at least two secondary windings electrically separated (figure 1, item 22 and 24), at least two secondary windings electrically connected (figure 1, item 20 and 22), a ground potential (column 3, line 45-60). In regards to claims 17-18 and 25-26, Balaban's figure 1, clearly disclose secondary winding having a different direction winding as well as electrically connected, further secondary winding connected to ground (figure 1, item 2 and column 5, line 5-40).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5,11-13,17-18 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balaban (U.S. Patent # 4,481,564) in combination with Huang et al. (U.S. Patent # 6,344,979).

Balaban discloses claimed subject matters as explained in the claims 8-9,15-16 and 21-24, above, a resonant converter (figure 1 and column line 1-3), including a transformer (figure 1, item 16), a primary winding (figure 1, item 18), at least two secondary windings different winding direction (figure 1, item 20 and 22 plus see dot representation), a capacitor and inductive element (figure 1, item 32,38 and column4, line 1-2), a multiple outputs (figure 1, item V1 and V2). However Balaban does not disclose the utilization of the technique for the resonant converter is determined by the main inductance and the leakage inductance of the transformer. Huang et al. teaches the utilization of the similar technique for the resonant converter is determined by the main inductance and the leakage inductance of the transformer (figure 4, item Cs, Ls and Lm). It would have been obvious one having an ordinary skill in the art at the time the invention was made to modify Balaban's power supply by utilizing the technique taught by Huang et al. for the purpose of improving the conversion efficiency and by

providing a configuration and method by providing a LLC resonant network to a DC/DC converter to have dual characteristic resonant frequencies such that output voltage can be controlled by adjusting the switching period of a pair of input switches.

5. Claims 27,29,30 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balaban (U.S. Patent # 4,481,564) in combination with Huang et al. (U.S. Patent # 6,344,979) and further in combination with Kaneko et al. (U.S. Patent # 4,839,915).

Balaban in combination with Huang et al. discloses claimed subject matters as explained above, except the utilization of the technique for a inverter to set frequency and duty cycle of the chopped DC voltage. Kaneko et al. teaches the utilization of the similar technique for an inverter to set frequency and duty cycle of the chopped DC voltage (Abstract, line 1-14). It would have been obvious one having an ordinary skill in the art at the time the invention was made to modify Balaban in combination with Huang et al.'s power supply by utilizing the technique taught by Kaneko et al. for the purpose of minimizing the undesirable ripple voltage.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA

1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 5,8-9,11-13,15-18 and 21-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,721,191. Although the conflicting claims are not identical, they are not patentably distinct from each other because Both the sets of claims directed toward a resonant converter comprising: multiple converter outputs, including a transformer having a primary winding and at least two secondary windings wherein the resonant frequency of the resonant converter determined by the main inductance and a leakage inductance of the transformer and by a capacitive element.

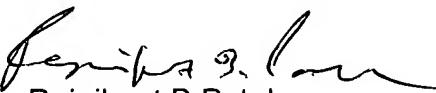
Allowable Subject Matter

7. Claims 11-13,28 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rajnikant B. Patel whose telephone number is 571-272-2082. The examiner can normally be reached on 6.30-5.00; m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rajnikant B Patel
Primary Examiner
Art Unit 2838